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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Peter HAWKINS et al.

Group Art Unit: 1641

Application No.: 09/816,225

Examiner: P. DO

Filed: March 26, 2001

Docket No.: 109068

For: MAGNETIC PARTICLE DETECTION

REQUEST FOR RECONSIDERATION

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In reply to the January 12, 2006 Office Action, reconsideration of the application is respectfully requested in light of the following remarks.

Claims 9-13 are pending in this application. The Office Action, on page 2, indicates that the rejections under 35 U.S.C. §112, first paragraph, that were raised for the first time, in the extended and extensive prosecution of this application, in the April 5, 2005 Office Action, have been withdrawn based on the arguments and evidence provided in the August 4, 2005 Request for Reconsideration.

**I. The Claims Define Allowable Subject Matter**

The Office Action, on page 2, rejects claims 9-11 and 13 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,110,660 to Kriz et al. (hereinafter "Kriz") in view of U.S. Patent No. 5,978,694 to Rapoport and further in view of U.S. Patent No. 3,858,111 to Simpson. The Office Action, on page 5, rejects claim 12 under 35 U.S.C. §103(a) as being unpatentable over Kriz in view of Rapoport further in view of Simpson and further in view of

U.S. Patent No. 5,679,342 to Houghton et al. (hereinafter "Houghton"). These rejections are respectfully traversed.

The Office Action, on page 4, concedes that a combination of Kriz and Rapoport fail to teach all of the features positively recited in independent claim 9. Specifically, the Office Action concedes that the combination of Kriz and Rapoport do not teach a tuned circuit connected to a phase locked loop as is positively recited, among other features, in independent claim 9. As will be discussed in more detail below, this feature has been the focus of prosecution for more than three years, to include arguments in response to a previous Final Rejection and Advisory Action that Kriz and Rapoport fail to teach such a feature. It was this feature that was the subject of Applicants' arguments also in a Brief on Appeal necessitated during prosecution of this application.

The Office Action relies on Simpson as allegedly teaching a tuned circuit connected to a phase locked loop, as is discussed in the Office Action at the bottom of page 4 and the top of page 5. The analysis of the Office Action fails for at least the following reason.

Claim 9 recites, among other features, determining the number of magnetic particles bound to the substrate by determining the difference in the resonant frequency of a tuned circuit when the substrate is exposed to a magnetic field generated by a coil and when the substrate is not exposed to the magnetic field generated by the coil wherein the tuned circuit is connected to a phase locked loop comprising a driver which generates a driving signal for driving the tuned circuit, and a phase comparator for determining the phase difference between the driving signal and an output signal obtained from the tuned circuit, the difference in resonant frequency being determined by monitoring the performance of the phase locked loop.

Simpson teaches a method and apparatus for sensing chemical process concentrations in a nuclear magnetic resonance scanning field (Abstract). The Office Action, with reference

Fig. 1 indicates that Simpson teaches a tuned circuit 13. The Office Action then alleges that the tuned circuit 13 of Simpson is connected to a phase locked loop. This conclusion is not correct.

The nuclear magnetic resonance referred to in Simpson does not in any way correspond to the resonance effect that is observed in the device that is the subject matter of the pending claims. Simpson, in fact, does not even include circuitry that can even reasonably be considered to correspond to the circuitry that is the subject matter of the pending claims. The phase sensitive detector in Simpson is used to facilitate measurement of in-phase and quadrature signals at resonance. A phase difference between the reference signal and any return signal can be changed by adjusting a phase shifter, but there is no feedback loop at all present in the device disclosed in Simpson that could reasonably be considered to correspond to a phase locked loop. The analysis of the Office Action fails to show specifically where such a phase locked loop is depicted or described, other than by simply attempting to assert, in a conclusory manner, that it must be present based on the combination of elements shown in Fig. 1. The Office Action refers to col. 4, line 24 - col. 5, line 27 of Simpson as allegedly disclosing such a feature. Applicants have carefully reviewed the cited portions of Simpson, as well as the disclosure of Simpson in its entirety, and are unable to discern where the Examiner is able to reasonably conclude that any feature or combination of features disclosed in Simpson can be considered to correspond to the phase locked loop positively recited in the pending claims.

For at least this reason, the combination of the applied references cannot reasonably be considered to have suggested the combination of all of the features recited in independent claim 9. Further, claims 10, 11 and 13 would also not have been suggested by the combination of the applied references for at least the respective dependence of these claims on independent claim 9, as well as for the separately patentable subject matter that each of

these claims recites. Additionally, because Houghton is not applied in a manner that would overcome the above-identified shortfall in the application of the combination of the applied references to the subject matter of independent claim 9, claim 12 would also not have been suggested by the asserted combination of applied references for at least the dependence of this claim on an allowable claim 9, as well as the for the separately patentable subject matter that claim 12 recites.

Accordingly, reconsideration and withdrawal of the rejections of claims 9-13 under 35 U.S.C. §103(a) as being unpatentable over any combination of the applied prior art references, as enumerated in the Office Action, are respectfully requested.

**II. Applicants Have Been Prejudiced By The Piecemeal Examination of This Application.**

The prosecution history of this application to date indicates that this application has been the subject of piecemeal examination by the Patent Office which has worked to the substantial prejudice of the Applicants to this point.

Applicants believe that they have been significantly prejudiced by the prosecution of this application to date. Excessive expense and time consuming replies have been required of Applicants based on piecemeal examination of this application as evidenced by the discussion below. It is for at least this reason that Applicants respectfully request, if any of the current rejections are maintained over the above discussion, in keeping with the spirit and intent of MPEP §707.02, Examiner Do's Supervisory Patent Examiner personally check on the pendency of this application and afford Applicants' representative an opportunity to discuss any ongoing rejections prior to the issuance of any next Office Action regarding the subject matter of the pending claims. In support of the assertion of piecemeal prosecution, Applicants present the following.

This application was filed on March 26, 2001. A Restriction Requirement was mailed on June 17, 2002, to which Applicants timely responded on July 16, 2002 electing Group 2, claims 9-14 were traversed. A non-final Rejection of claims 9-14 was mailed on October 22, 2002, rejecting claims 9-14 under 35 U.S.C. §103(a) as being unpatentable over Kriz and Rapoport, or Kriz, Rapoport and Houghton. Applicants amended claim 9 to recite the tuned circuit being connected to a phase locked loop and argued that the claims were therefore patentable over the combinations of applied prior art references.

A Final Rejection was mailed on April 21, 2003, indicating that the Examiner did not consider Applicants' arguments regarding the combination of prior art references not teaching a phase locked loop persuasive. In reply, Applicants filed an Amendment After Final Rejection on July 17, 2003 which argued, in pertinent part, that there was no suggestion or disclosure in either Rapoport or Kriz of a phase locked loop connected to a tuned circuit. In an Advisory Action mailed on September 8, 2003, the Examiner indicated that Applicants' arguments were not persuasive.

Applicants timely filed a Notice of Appeal and on December 15, 2003, filed a Brief on Appeal which argued, in pertinent part, that the subject matter of the pending claims includes a phase locked loop and that neither Kriz nor Rapoport disclosed a phase locked loop, nor did either of the references taken alone or in combination suggest any advantage of using a phase locked loop.

On September 21, 2004, the Patent Office mailed a non-final Rejection indicating that the finality of the previous rejection had been withdrawn and prosecution was re-opened due to new grounds of rejection. The 35 U.S.C. §103 rejections maintained in the Advisory Action had now been withdrawn. As such, the rejections under a combination of Kriz and Rapoport or Kriz, Rapoport and Houghton were withdrawn. The September 21, 2004 Office

Action asserted new grounds for rejection of claims 9-13 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,046,585 to Simmonds.

Applicants timely filed a Request for Reconsideration on December 21, 2004 that stated, in pertinent part, "Simmonds does not disclose a phase locked loop, and nor is such a feature called out in the Office Action." Applicants noted that the phase sensitive detector of Simmonds cannot reasonably be considered to correspond to the phase locked loop as positively recited in claim 9. Applicants found it particularly troubling that the feature of a phase locked loop, which Applicants had now argued as being not present in any of the applied prior art references through an Amendment in response to a non-final Office Action, an Amendment After Final Rejection, and in Applicants' Brief on Appeal, was not even addressed in the September 21, 2004 Office Action.

Examiner Do contacted Applicants' representative on March 16, 2005 and stated that if the subject matter of claim 10 was incorporated into claim 9, she believed that the case would be allowable. The Examiner agreed that, upon approval, she would enter any necessary claim amendments by Examiner's Amendment to be forwarded with a Notice of Allowance. Applicants were unwilling to agree to such a change without being afforded the opportunity to review the Examiner's rationale for such a requirement. This conclusion was conveyed to Examiner Do in a telephone conversation on March 18, 2005.

Subsequently, on April 5, 2005, a new non-final Office Action was issued which made no reference to the Examiner's telephone inquiry regarding the subject matter of claim 10, but rather, for the first time in prosecution of this application, asserted that claims 9-13 were rejected under 35 U.S.C. §112, first paragraph, as failing to meet the enablement requirement. Of significance, at this point in prosecution, the April 5, 2005 Office Action stated, on page 5, claims 9-13 are free of prior arts. In extensive misconstruction of Applicants' disclosure, as well as misinterpretation of the state of the prior art, the Examiner

had concluded that the subject matter of the pending claims was not enabled. Applicants' representative scheduled and conducted a personal interview with Examiners Do and Le on July 26, 2005 presenting significant evidence dating back to as early as 1977 regarding the state of the pertinent art and arguing that the conclusions enumerated in the Office Action regarding the state of the prior art and the assumption that Applicants' claims were not enabled by Applicants' Disclosure was in error. Applicants timely filed a Request for Reconsideration on August 4, 2005 that reiterated the arguments that Applicants' representative had made during the July 26 personal interview.

The January 12, 2006 Office Action, to which this Request responds, as indicated above, indicates that the rejections under 35 U.S.C. §112, first paragraph, are withdrawn. Again, as indicated above, this Office Action then goes on to reject claims 9-13 as being unpatentable over Kriz in view of Rapoport and further in view of Simpson, or Kriz in view of Rapoport and further in view of Simpson and further in view of Houghton.

It is difficult for Applicants to understand precisely why the examination of this application seems to have been undertaken in such a piecemeal fashion. Specifically, every opportunity has been afforded for the Patent Office to consider the feature of a phase locked loop, as positively recited in the subject matter of the pending claims, and all attempts to date to assert this feature as being obvious in view of the prior art have failed. This includes: (1) a review of this application on Appeal necessitated by the Examiner's previous stance in this regard; (2) a complete disregard of this feature in a subsequent Office Action; (3) an assertion most recently that the subject matter of the pending claims is "free from prior arts" in a rejection that for the first time, and in an unfounded manner, rejected the subject matter of the pending claim as not enabled, a rejection which has subsequently been withdrawn; and (4) in the most recent Office Action again failing to adequately address with requisite detail where

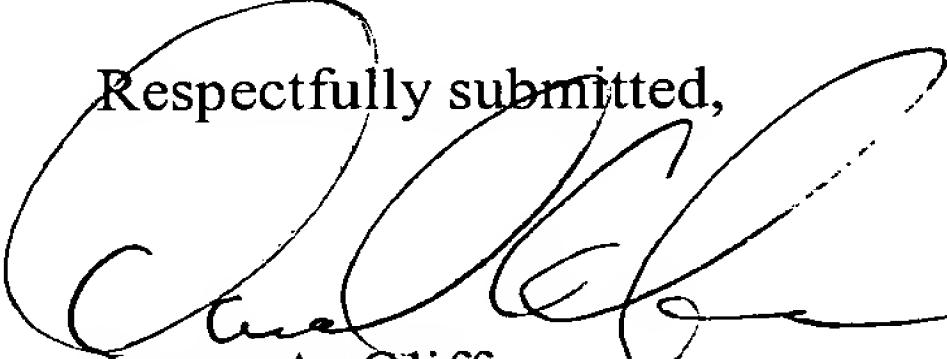
the phase locked loop as positively recited in the subject matter of the pending claims can reasonably be considered to be suggested by the newly applied reference.

**III. Conclusion**

In view of the foregoing, Applicants respectfully submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 9-13 are earnestly solicited. As indicated above, the deference of the Patent Office, and specifically the Examiner's Supervisory Patent Examiner, are earnestly solicited based on the course of prosecution of this application to date.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number set forth below.

Respectfully submitted,



James A. Oliff

Registration No. 27,075

Daniel A. Tanner, III  
Registration No. 54,734

JAO:DAT/cfr

Date: April 11, 2006

**OLIFF & BERRIDGE, PLC**  
**P.O. Box 19928**  
**Alexandria, Virginia 22320**  
**Telephone: (703) 836-6400**

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